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ABSTRACT

The same introductory business course was presented by Lakeland Community College as a telecourse, broadcast during the day and evening; as a day course on campus; and as an evening course off campus. Students in all three classes were surveyed to determine their characteristics and attitudes toward the course. Telecourse students were overwhelmingly supportive of the format, preferring it to traditional course design. With regard to their characteristics, telecourse students were more similar to part-time evening students than to full-time day students, though they tended to be older than either of the other groups. Compared to day students, a lower percentage of telecourse students were taking an additional course, a higher percentage were employed full-time, and a much higher percentage were less than full-time students. Evidence indicated that if the telecourse had not been offered, telecourse students, who stressed the convenience of the format, would not have taken the evening course at Lakeland. More telecourse students felt that they had learned a lot from their course than did the other students, and more indicated that they would recommend the course to a friend. The students in all groups indicated that they had expended the same amount of effort in the course. As a whole, the telecourse group had a higher class grade point average and scored higher on the tests than the other groups. The questionnaire is appended. (MB)

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TELECOURSES: a nonconventional approach to education

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Lakeland Community College, Research and Development

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Lakeland Community College
Institutional Research & Development
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OVERALL SUMMARY

The early experience with the telecourse mode of instruction at Lakeland Community College seems to be successful.

- Students appear satisfied with the quality of instruction.
- Student performance appears not to be hindered by an absence of the traditional classroom setting.
- The convenience of this approach to learning may be useful in meeting the needs of the nonreturning (stop-out) student.

INTRODUCTION

What Are Telecourses?

The use of sophisticated television broadcasting systems as a way of presenting educational material (telecourses) may represent a real advance in education. But some significant questions must be answered before judgment is rendered.

Can educational quality be maintained in the face of potential television commercialism?

Will enrollments in telecourses diminish on-campus enrollment resulting in the loss of faculty positions?

Dallas County Community College District (DCCCD) and Coastline Community College are two institutions in the forefront of the telecourse movement. Their work and experience may provide some answers to these questions.

With regard to the issue of quality, I will describe how the Coastline Community College telecourse system works and then refer you to the article entitled, "Odyssey On Man" which appeared in the October 15 issue of Tie Line. The article is a description of the course "Dimensions in Culture" as envisioned by its designer, Coastline Community College.

Telecourse Format

1. Students watch course.
2. Every two weeks the students receive, by mail, self-testing scantron cards.
3. The cards are filled in and returned to the college where they are processed by computer.
4. The evaluations are returned to students with instructor's comments.
5. Students may receive help through a telephone conference or an appointment with a live instructor.

Course completion rate is around 75 percent. The high completion rate is one indicator of success. [1]

The Dallas County Community College District has done research into the affect of telecourses on on-campus enrollment and has revealed the following information:

1. A major group comprising telecourse students consists of citizens whose circumstances make it difficult for them to participate in college credit courses. They are students who would not have come to campus had there been only the traditional classroom format available.
2. The telecourses have recruited new students into the full curriculum and created a new interest in the college itself. In the five years of operating telecourses no faculty jobs have been lost.
3. In the case of four humanities courses at DCCCD, when the existing on-campus courses were paralleled by telecourses, combined enrollments in all four increased 20 percent over the previous year.[2]

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[1] Real, James, "Coast Community College, The Learning Society, California Style," Change, Vol. 10, No. 3 (March, 1978), p. 22.

[2] Mittelstet, Stephen K., "Telecourses Recruit in Dallas," Community and Junior College Journal, Vol. 48, No. 6 (March, 1978), p. 20.

The LCC Experience

The remainder of this report is a first attempt at studying the telecourse concept and the characteristics of telecourse students at Lakeland Community College. Specifically, we have examined three presentations of essentially the same introductory business course in three different circumstances:

Business 115 (the telecourse format)

Business 130 (a day course at Mentor), and

Business 130 (an evening course at Madison).

A brief description of the BUS 115 vs. the BUS 130 format follows.

IEB: (Telecourse 115)

Used DCCC Package (films on SVIZ-TV)

Used DCCC Study guide (required)

Used same text as other two classes (Hodgetts)

Discussions were optional and poorly attended.

Our AV recorded and set up each program for individual viewing.

Three 100 questions tests were used. Best 40%, others 30%; 50% each if only two were taken. Five persons tested by mail.

No outside assignments or other basis for grades.

Total TV time: 900 minutes

Total test time: 180 minutes

Total (Opt) Discussion: 540 minutes + 120 min. orientation

Discussions followed same format as BUS 130 lectures on the assigned topics, plus questions and answers.

Text chapters assigned: all except 8, 19*, 23, 24*, 26*. (*these get only a very light treatment in the live course)

BUS 130:

Used live meetings, including 8 films and two speakers besides instructor.

Study guide for text was optional and discouraged

Used same text as IEB, plus a Readings text.

Attendance taken first three weeks only. Stayed up fairly well (75-85%).

All films were repeated on DAIRS.

Four tests, 72-100 questions each. Best three of four count equally.

Campus section could earn extra points by attending management lecture series. Twenty-five percent did attend one or more of these. (The off-campus class was held at the same time as series.)

Total class time 30 x 50 min. = 1,500 minutes.

Text chapters assigned: all, with less emphasis on certain ones.

It is important to note at this time that the telecourse was run in both the mornings and evenings, so it had the potential to draw both day and evening students. Therefore, a comparison with a traditional day class in Mentor and an evening class in Madison could indeed prove interesting.

ANALYSIS

Part I - Attitude Study

In this portion of the report we shall concentrate only on a comparison of attitudes and demographic characteristics among students in the three classes. In the second part of the paper we shall look at the question of relative student performance.

Attitudes Towards Telecourse

(See Figure 1)

What is particularly striking about the results of the evaluation of the telecourse by the students who were enrolled in it is the overwhelming support for it and the preference for it over the traditional course design.

There are, of course, possible alternative explanations for the student evaluation which may have nothing to do with the telecourse concept and may instead be linked to the kind of student who may be drawn to a telecourse deisgn. It is, therefore, important to know if the business telecourse students have some unique characteristics relative to other business students. This comparison is possible by looking at the demographic characteristics of students in Business (115) telecourse and those of the students in the same course taught during the same quarter on campus (Business 130-Mentor) and off campus (Business 130--Madison). (See Figure 2.)

Summary of Demographics

While telecourse students had the option of day or evening, it appears that the telecourse tended to draw a student more similiar to a part-time evening student than a full-time day student.

Figure 1

Attitudes Towards Telecourse*

The following data reflects the general attitudes of 35 BUS 115 telecourse students to the telecourse experience.

	Strongly Disagree (1)	Disagree (2)	Neither Agree Nor Disagree (3)	Agree (4)	Strongly Agree (5)
The television programs used in this course were interesting and stimulating.		2.6%	15.8%	68.4%	13.2%
The television programs were easy to follow.		5.3%	7.9%	71.1%	15.8%
The presentation of material in the television course was better than most on-campus courses.		2.6%	15.8%	55.3%	26.3%
I am satisfied with the amount of contact I had with the instructor.	2.6%	10.5%	18.4%	55.3%	13.2%
A real disadvantage of the television course was the absence of classroom discussion.	2.6%	33.3%	20.5%	25.6%	17.9%
If I were to take this course again, I would prefer to take it in the traditional lecture mode.	20.5%	38.5%	25.6%	7.7%	7.7%
If I had a choice between enrolling in the home television course versus an on-campus traditional style course, I would enroll in the television course.	5.1%	5.1%	17.9%	51.3%	20.5%
Knowing what I know now, and if I had to do it over again, I would elect to take this course.			7.7%	61.5%	30.8%
If this course had not been offered on television, I would have taken it on campus.		12.8%	38.5%	10.3%	38.5%
As a result of my experience in this course, I would like to take additional courses in this subject area.		2.6%	35.9%	41%	20.5%
If I had the chance to take another television course, I would.	2.6%	2.6%	12.8%	48.7%	33.3%

*Questionnaire from which information is drawn can be found in Appendix A

Figure 2

Demographic Characteristics

Total Number of Students: 102

	Telecourse	Business 130 (Madison)	Business 130 (Mentor)
Age	37% of students 29 yrs. or younger	65% of students 29 yrs. or younger	93% of students 29 yrs. or younger
Sex	46% Male 54% Female	50% Male 50% Female	46% Male 54% Female
% Returning	89%	81%	73%
% Taking an Additional Course or Courses	60%	58%	88%
% Planning to Take Course in Future	86%	96%	88%
% Full-time Employed	66%	72%	12%
% Part-time Employed	11%	12%	56%
% Homemaker	20%	12%	10%
% Not Employed	3%	4%	22%
Hours Presently Enrolled	75% taking 8 hrs. or less	87% taking 8 hrs. or less	10% taking 8 hrs. or less

The following statements can be made about demographic characteristics:

1. The singularly unique feature about the telecourse students is that they tend to be older than the students in the other two business courses.
2. In all other ways, the telecourse students were similar in characteristics to the Madison course students.
3. They were dissimilar from the Mentor students in that:
   (a) a lower percent were taking an additional course.
   (b) a significantly higher percentage were employed full time.
   (c) a much larger percentage were less than full-time students.

The profile of the telecourse student is someone who is:

(a) older than the average Lakeland student.

(b) employed full-time.

(c) taking the telecourse by itself or with one additional class.

(d) likely to have been a past student at Lakeland.

Would they have enrolled in a traditional course?

An important question to be asked at this point is whether, had the telecourse not been offered, would most of these students have come in the evening to Lakeland as part-time students and then perhaps taken an additional course. There is evidence to suggest that the answer is no.

1. Students in all three Business classes (Telecourse, Business 130--Madison, Business 130--Mentor) were asked: What did you like best about this Business course? The only real pattern appears among telecourse students who stress the convenience of taking the course via television which allowed them more time for home and family.

2. Studies done by Dallas Community College suggest that telecourses reach older students who would be less likely to come to campus initially for traditional courses. One effect of their telecourses was to eventually bring these students to campus for additional courses. The Dallas results seem to be representative of other colleges' experiences.[3]

3. To the extent that our telecourse student is a returning student, i.e., someone who has been to Lakeland at some other time, we may through this medium be bringing the occasional student back to Lakeland and thereby also dealing with the nonreturning student problem.

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[3]Mittelstet, Stephen K., "Telecourses Recruit in Dallas," Community and Junior College Journal, Vol. 48, No. 6 (March, 1978)

Attitudes Toward Educational Experience

Students in all three courses (Business 115--Telecourse, Business 130--Madison, and Business 130--Mentor, were asked to respond to the following statements:

1. I feel that I learned a lot from this course.
2. I would definitely recommend this course to a friend.
3. I put a great deal of effort into this course.

Table A compares the responses among the three groups to Statement 1. Although the differences among the groups are not statistically significant, there is a tendency for more of the telecourse students to feel that they learned a lot from their course than students in the other two groups.

In Table B, comparisons are made for Statement 2. Once again, though the differences are not statistically significant, there is a tendency for more of the telecourse students to recommend the course they have taken to a friend.

Telecourse students may be
an effective positive
advertisement in the
community for Lakeland.

Table C suggests that in relationship to the third statement, there appears to be no significant difference in degree or direction to perception regarding the level of work involved in the course among telecourse and non-telecourse students.

Pages 11 - 14 containing irreproducible computer printouts (how to read a crosstabulation, Table A-Cross-tabulation of Variable Learned by Variable Class, Table B-Cross-tabulation of Variable Recomnd by Variable Class, and Table C-Cross-tabulation of Variable Effort by Variable Class) were deleted prior to the document's being shipped to the ERIC Document Reproduction Service.

Part II - Student Performance

The introductory business courses taught by Bob Vaughn in Winter 1979 presented the opportunity of looking beyond attitude and demographic differences to the question of relative similarities and dissimilarities in performance of students.

The following are the essential similarities between Business 115 (the telecourse setting) and Business 130 (the Madison and Mentor traditional course setting):

1. They both used the same text.
2. They were taught by the same instructor--Bob Vaughn.
3. The discussions in Business 115 followed the same format as lectures in Business 130.
4. Both received exams with essentially the same questions.

The major dissimilarity between the two settings was, of course, the fact that in Business 115 (the telecourse) the essential course material was delivered via a televised learning package (DCCC) augmented by optional discussions with the instructor on six Saturdays, while in Business 130, essentially the same material was presented by the same instructor in a traditional classroom setting.

Other important differences include the times in which the learning experience occurred, as well as the initial differences in the demographic characteristics of the students in the two kinds of classes (already documented in Part I.)

No attempt here is made to present this part of the study as a rigorous, true experimental design.

-- It was not possible to randomly select students for each of the three sections.

-- It was not possible to significantly control the learning settings to allow for pre and post observations (thereby controlling for many kinds of problems of internal validity such as prior learning, maturation, and history)[4]

What this part of the study does represent is a semi-structured quasi-research design[5] consisting of only after-the-fact (post observations) measures of student performances in three fairly similar Introduction to Business sections differing fundamentally in the teaching format (telecourse versus traditional classroom).

No attempt will be made to reject null hypotheses, but rather an attempt will be made to describe possible trends in performance differences among students in the two different settings. In Part I, the described attitudes of telecourse students strongly suggested that they felt they had received as high a quality of course as they would have received under a traditional classroom setting.

The question posed in Part II is: Did the absence of a classroom setting seem to substantially impede the performance of students?

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[4] It should be mentioned that the lack of a rigorous experiemental setting resulting in "normal" classroom situations probably served to reduce many traditional forms of external validity such as the interaction of testing and reactive arrangements.

[5] For other examples of this kind of action based research, I refer you to Stanley and Campbell, Experimental and Quasi-Experimental Designs for Research

The answer to this question was approached in two different ways. Bob Vaughn, the instructor, kept exacting records on the performance of all students in each section on exams, comparing performances on the same questions. In addition, he kept attendance and enrollment records. The results of his work can be found in Table D. The following should be noted from these results. The TV group, as a whole, had a higher class grade point average based only on performance in this one class than either the Mentor or Madison sections.

By itself, this result is not entirely conclusive as:

1. The TV group had a higher dropout rate than the other two sections, perhaps serving to trim the poorer students out who might have continued along in the traditional setting.
2. G.P.A. was based entirely upon exams in the TV group, while in the other classes, there were some additional sources of grade performance such as attendance of the management lecture series.

A second form of analysis was conducted by Research and Development which consisted of the one-way analysis of variance among only the test source averages of all the students completing each of the three classes (Madison, Mentor, and TV group). The results can be found in Table E. In the analysis, test performance was the dependent variable and test setting (Madison, Mentor, or TV) was the independent variable. The reader should note that with an F of 5.343 (significant at the .007 level) the three groups differed enough from each other to say that the type of delivery (TV versus traditional classroom) was a statistically significant factor in effecting test performance.

As a group, TV students had a significantly higher test score performance on the same material with the same questions than their conventional classroom colleagues.[6]

The higher dropout rate no doubt may have had some effect here also. But it is certainly possible to say that results seem to strongly suggest that:

The absence of a traditional classroom setting and the use of a professionally designed TV package may not impede performance of students.

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[6]The ETA, or correlation between type of delivery and test performance, was .32 which is a moderate association.

Table D

Criteria	TV Group	Campus Group	Madison Group
Class Meetings	TV = 3 1/2 hr. shows per week, MWF, 7-7:30 a.m. or 6:30-7 p.m. option to make up. Discussion: Optional on six Saturdays, 9:30-11 a.m. Tests: Three, given on Saturdays, 11-12 a.m. or by mail for those who could not attend.	Three 50-minute meetings per week, 10-10:50 a.m., MWF.	One 2-hour and 40-minute meeting per week, 7-9:40 p.m., Mondays.
Enrollment (14 day)	42, 7 dropped or took I's; 1 didn't finish	45, 2 later dropped 3 didn't finish	27, none dropped, 3 didn't finish
Class Grade Point Based on Final	2.79	2.25	2.51
Raw Average of Percents on 155 Identical Test Questions (Unbalanced for N)	82.54%	79.57%	83.65%
Attendance	TV: Unknown TV Make up: Negligible Discussion: as few as four to about half.	About 75%	About 85%

Page 20, Table E, was deleted due to irreproducibility prior to the document's being shipped to the ERIC Document Reproduction Service.

APPENDIXES

Appendix A
Introduction to Business Questionnaire

1. Name _____ _____ _____
   Last First Middle Initial

2. Age: (Please Check)
   1. _____ Under 18
   2. _____ 18-21
   3. _____ 22-29
   4. _____ 30-39
   5. _____ 40-49
   6. _____ 50-59
   7. _____ 60 up

3. Sex (Please check)
   1. _____ Male
   2. _____ Female

4. Please check the class in which you are enrolled.
   1. _____ Business 115 - (Telecourse)
   2. _____ Business 130 - (Held in Madison)
   3. _____ Business 130 - (Held in Lakeland, main campus)

5. Have you ever attended Lakeland prior to this academic quarter? (Please check)
   1. _____ Yes
   2. _____ No

6. Are you taking any other courses this quarter besides this one (Bus. 115 or Bus. 130)?
   1. _____ Yes
   2. _____ No

7. If your answer to question #6 is yes, please list the other courses you are taking below.

   _____ _____
   Course title & number Location: (Mentor or Madison)

   _____ _____
   Course title & number Location: (Mentor or Madison)

   _____ _____
   Course title & number Location: (Mentor or Madison)

8. Are you planning to take courses in the future? (Check the appropriate one)
   1. _____ Yes, I plan to take other courses at Lakeland
   2. _____ I may possibly take other courses at Lakeland.
   3. _____ It is not likely that I will take additional courses.

9. What is your primary employment/occupational state? (Check the appropriate one?)
   1. _____ Homemaker
   2. _____ Employed part-time
   3. _____ Employed full-time
   4. _____ Not employed

10. For how many hours are you presently enrolled this quarter? (Check one)
    1. _____ 5 or less hours
    2. _____ 6 to 8 hours
    3. _____ 9 to 11 hours
    4. _____ 12 or more hours

11. What did you like best about this business course (Bus. 115 or 130)?

_____

_____

The following questions ask you to indicate the extent to which you agree or disagree with a number of statements. After reading each statement carefully, please mark with an "X" in the box which best represents how you feel about the statement.

	(1) Strongly Disagree	(2) Disagree	(3) Neither Agree nor Disagree	(4) Agree	(5) Strongly Agree
12. I feel that I learned a lot from this course.	( )	( )	( )	( )	( )
13. I would definitely recommend this course to a friend.	( )	( )	( )	( )	( )
14. In terms of overall teaching effectiveness, and compared to other courses I have had at LCC, I would rate this course as one of the very best.	( )	( )	( )	( )	( )
15. The amount of material covered in the course was reasonable.	( )	( )	( )	( )	( )
16. I put a great deal of effort into this course.	( )	( )	( )	( )	( )

The following questions apply only to Telecourse (Bus. 115):

	(1) Strongly Disagree	(2) Disagree	(3) Neither Agree Nor Disagree	(4) Agree	(5) Strongly Agree
17. The television programs used in this course were interesting and stimulating	( )	( )	( )	( )	( )
18. The television programs were easy to follow	( )	( )	( )	( )	( )
19. The presentation of material in the television course was better than most on-campus courses.	( )	( )	( )	( )	( )
20. I am satisfied with the amount of contact I had with the Instructor.	( )	( )	( )	( )	( )
21. A real disadvantage of the television course was the absence of classroom discussion.	( )	( )	( )	( )	( )
22. If I were to take this course again, I would prefer to take it in the tradition lecture mode.	( )	( )	( )	( )	( )
23. If I had a choice between enrolling in the home television course versus an on-campus traditional style course, I would enroll in the television course	( )	( )	( )	( )	( )
24. Knowing what I know now, and if I had it to do over again, I would elect to take this course.	( )	( )	( )	( )	( )
25. If this course had not been offered on television, I would have taken it on campus.	( )	( )	( )	( )	( )
26. As a result of my experience in this course, I would like to take additional courses in this subject area.	( )	( )	( )	( )	( )
27. If I had the chance to take another television course I would.	( )	( )	( )	( )	( )

28. How did you find out that this course was being offered? (Check all those that apply)

_____ (1) Newspaper story
_____ (2) Newspaper advertisement
_____ (3) LCC course schedule
_____ (4) LCC Admissions Office
_____ (5) LCC Counselor
_____ (6) LCC Faculty
_____ (7) Word-of-Mouth
_____ (8) Other (please specify): _____

THANK YOU VERY MUCH!

Appendix B-1

TELECOURSE BIBLIOGRAPHY
(Results from a computer search on Telecourses in community colleges 10/16/78)

NOTE: The following is a list of ERIC document numbers included in the original bibliography, which was deleted due to irreproducibility.

EJ 166 332
ED 133 028
EJ 173 932
EJ 179 609
EJ 116 355
ED 121 385
ED 143 382
ED 136 868
ED 111 444
ED 131 904
EJ 179 618
ED 128 030
ED 104 509
ED 094 840
ED 100 454
EJ 179 614
ED 133 038
ED 152 341
ED 030 412
ED 126 969
EJ 179 612
ED 003 637
ED 003 640
EJ 124 658
ED 105 511

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